

The northwest and southeast winds observed by us in the more elevated layers had at the most a velocity of three or four meters per second. The velocity was generally smaller in the intermediate layers over the regions that we have explored, the air in the antitrade blew especially from the northwest and the direction of the northeast trade changed with increasing altitude into north and stopped at northwest. Once we observed cirrus coming from the southwest and on that same day the wind turned from northeast to south as the altitude increased. We have often observed the trade cumuli or rolls of flat clouds stretched out in the direction of the wind. These always form in the upper part of the first adiabatic layer and therefore at an altitude of only a few hundreds of meters. The hygrometric diagrams demonstrate that there are ascending currents whose upper limit is given by the altitude of the layer of inversion where these clouds (trade cumuli?) are dissolved. When the layer of inversion has descended sufficiently low so that the ascending currents can not cool to the point of condensation they do not form cumuli. On the contrary when the cumuli do form one ought to be able to say in advance that the zone of inversion will be found at a higher level. As an example I give in the following table some of the data that resulted from one ascension:

Ascension on August 9, 1904. Location, west of the Canaries.

Height.	Tem- perature.	Relative humidity.	Direction of wind.
<i>Meters.</i>	<i>° C.</i>	<i>Per cent.</i>	<i>°</i>
0	23.0	80	n. 52 e.
200	20.5	88
400	18.5	88	n. 36 e.
500	18.0	93
600	18.9	80
800	24.5	35
1,000	26.4	36	n. 29 e.
1,200	26.2	16	n. 15 e.
2,000	18.0	21
3,000	9.0	30
4,000	-1.5	40
4,500	-5.6	47	n. 25 w.

In the neighborhood of the Azores we observed winds from the northwest and the distribution of temperature and humidity also had a different character. Immediately above the ocean there existed at all hours of the day a decrease of temperature that was adiabatic or more than adiabatic. We have never observed the nocturnal inversion of temperature that is so common over the continents.

THE IMPARTIAL DISTRIBUTION OF WEATHER-CROP BULLETINS.

Several years ago it became necessary for the Chief of the Weather Bureau to devise some method by which the public might be treated with perfect fairness in the matter of publishing the weekly weather-crop bulletin. It appears that during the growing season farmers, brokers, boards of trade, transportation companies, and newspapers are each anxious to obtain, at the earliest possible moment, the latest news as communicated in these bulletins, striving to anticipate the others by a few minutes if possible, since these few minutes sometimes mean thousands of dollars to a large dealer.

A large edition of the bulletin is printed in the forenoon on Tuesday. The information it contains is known only to the few men concerned in making up the report. As a practical and fair method of distribution the printed copies are given simultaneously at 12 noon, eastern standard time, to all who wish them.

This plan is adhered to up to the present moment, and seems to give perfect satisfaction to all parties. The quick dissemination of the news throughout the country is therefore no longer the duty of the Weather Bureau, but of those who come to the Bureau for the weekly bulletins. By proper arrangement between the boards of trade, interested individuals, the newspapers, the Associated Press, other press associations, and the telegraph companies, two or more telegraph operators appear at the Weather Bureau promptly at noon Tuesday, take their copies of the printed bulletins and immediately repair to the nearest telegraph line outside the grounds of the Bureau, where they "cut in" with their portable transmitters and send the bulletin throughout the country.

The Postal Telegraph Company has a permanent station at a drug store a thousand feet away; the accompanying photograph, fig. 1, shows the Western Union operators sitting on the ground absorbed in their work, which is completed in a few minutes.



FIG. 1.—Operators telegraphing the weather-crop bulletin.